

What is Claimed is:

1
2 1. A separation device of a paper towel, comprising: a housing
3 provided with two roll sets each having at least two rolls that may be driven by
4 a power member to rotate relative to each other at an equal speed, so that a
5 continuous paper towel may pass between the rolls of the two roll sets and may
6 be pulled downward, the paper towel provided with sensing marks at a
7 predetermined length, so that when the sensing mark of the paper towel passes
8 through a detection member, the detection member may detect passage of the
9 sensing mark of the paper towel, and may send a signal, so that a rotation speed
10 difference is produced between the rolls of the two roll sets, and the paper
11 towel passing between the rolls of the two roll sets may be torn off.

12 2. A separation device of a paper towel, comprising:
13 a housing, having two wall plates and provided with a detection
14 member;

15 a first roll set, consisting of at least two rolls each having two ends
16 respectively pivoted between the two wall plates, to be driven by a power
17 member to form a relative rotation;

18 a second roll set, consisting of at least two rolls each having two ends
19 respectively pivoted between the two wall plates, to be driven by a power
20 member to form a relative rotation;

21 a paper towel, forming a continuous paper roll and provided with
22 sensing marks, the paper towel passed through the rolls of the first roll set and
23 the second roll set respectively, and pulled downward by the rolls of the first
24 roll set and the second roll set at an equal speed;

25 wherein, when the sensing mark of the paper towel passes through
26 the detection member, the detection member may detect passage of the sensing
27 mark of the paper towel, and may send a signal to stop rotation of the first roll

1 set, or to let a rotation speed of the first roll set be smaller than that of the
2 second roll set, so that the paper towel passing between the first roll set and the
3 second roll set may be torn off.

4 3. The separation device of a paper towel as claimed in claim 1,
5 wherein each of the two roll sets is provided with a power member to drive the
6 rolls to rotate.

7 4. The separation device of a paper towel as claimed in claim 2,
8 further comprising a clutch wheel mounted between the two roll sets, wherein
9 the clutch wheel is controlled by a controller to mesh with or detach from drive
10 members provided by the rolls of the two roll sets, so that the drive members
11 may drive one of the two roll sets to rotate, or the two roll sets may be rotated at
12 an equal speed.

13 5. The separation device of a paper towel as claimed in claim 1,
14 wherein the roll face of the rolls of the two roll sets contacting with each other
15 or almost contacting with each other. has a length smaller than that of an
16 elongated hole of the paper towel.

17 6. The separation device of a paper towel as claimed in claim 2,
18 wherein the roll faces of the multiple rolls provided by one of the two roll sets
19 form a non-single line, and the roll faces of the rolls contact with each other or
20 almost contact with each other.

21 7. The separation device of a paper towel as claimed in claim 6,
22 wherein the roll faces of the multiple rolls provided by one of the two roll sets
23 forming a non-single line have arcuate convex portions which contact with
24 each other or almost contact with each other.

25 8. The separation device of a paper towel as claimed in claim 6,
26 wherein the roll faces of the multiple rolls provided by one of the two roll sets
27 forming a non-single line have equal-diameter portions each having a larger

1 diameter, each of the equal-diameter portions has two sides each having an
2 oblique shoulder portion, the equal-diameter portions of the multiple rolls
3 contact with each other or almost contact with each other.

4 9. The separation device of a paper towel as claimed in claim 6,
5 wherein the roll faces of the multiple rolls provided by one of the two roll sets
6 forming a non-single line form a corrugated shape, thereby forming multiple
7 convex portions and multiple concave portions between the multiple convex
8 portions, and multiple convex portions of the multiple rolls contact with each
9 other or almost contact with each other.

10 10. The separation device of a paper towel as claimed in claim 6,
11 wherein the paper towel is provided with a sensing mark and a easily
12 detachable line, the easily detachable line is formed with holes of different
13 lengths, and the holes are aligned with the position of the roll faces that contact
14 with each other or almost contact with each other.

15 11. The separation device of a paper towel as claimed in claim 2,
16 wherein each of the roll sets is provided with a guide board to guide the paper
17 towel to enter between the rolls of the roll sets.

18 12. The separation device of a paper towel as claimed in claim 2,
19 wherein the housing is provided with a liquid spray tube to wet the paper
20 towel.

21 13. The separation device of a paper towel as claimed in claim 2,
22 wherein the housing is provided with a guide plate to guide the torn paper
23 towel downward.

24 14. A paper towel, forming a continuous paper roll, and provided
25 with sensing marks at a predetermined length.

26 15. The separation device of a paper towel as claimed in claim 14,
27 wherein the sensing mark is formed with a cutout.

1 16. The separation device of a paper towel as claimed in claim 14,
2 wherein the sensing mark is formed with a cutout, or is formed on the paper
3 towel in a printing or bonding manner.

4 17. The separation device of a paper towel as claimed in claim 14,
5 wherein the paper towel is provided with a easily detachable line.

6 18. The separation device of a paper towel as claimed in claim 17,
7 wherein each of the two sides of the easily detachable line is formed with a
8 press portion.

9 19. The separation device of a paper towel as claimed in claim 17,
10 wherein the easily detachable line is formed by holes of different lengths.

10045005.011502